HOOD CANAL – MID-HOOD CANAL CHINOOK

In 1992, Mid-Hood Canal chinook were considered part of the Hood Canal summer/fall chinook stock and were not rated as a separate stock.

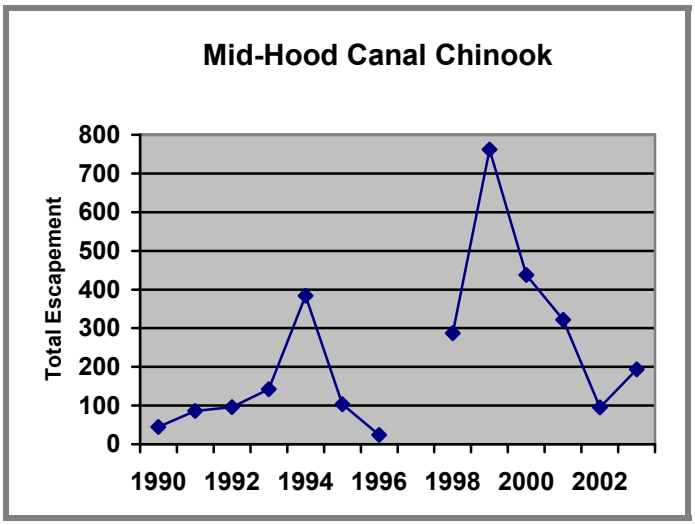
STOCK STATUS

1992 STATUS	2002 STATUS
Not rated	Critical

STOCK STATUS RATING DATA

USEFULNESS FOR RATING STOCK STATUS: Fair

YEAR	TOTAL ESCAPEMENT			
	Hamma Hamma	Duck-abush	Dose-wallips	Total
1990	35	10	--	45
1991	30	14	42	86
1992	52	3	41	96
1993	28	17	67	142
1994	78	9	297	384
1995	25	2	76	103
1996	11	13	--	24
1997	--	--	--	--
1998	172	57	58	287
1999	557	151	54	762
2000	381	28	29	438
2001	248	29	45	322
2002	32	20	43	95
2003	95	12	87	194



Data are index escapement estimates based on redd counts and/or live spawner counts 1) from RM 0.3 to 1.8 in the Hamma Hamma River and in lower John Creek, a tributary; 2) from RM 0.0 to 2.3 in the Duckabush River; and 3) from RM 0.0 to 2.3 or RM 0.0 to 6.7 on the mainstem Dosewallips River. In addition, upper reaches have been surveyed in the Duckabush and Dosewallips rivers since 1998.

Current chinook spawner surveys are typically limited to the lower reaches of each stream. In the Hamma Hamma, the majority of the chinook spawning habitat is currently being surveyed. In the Dosewallips and Duckabush, however, the areas surveyed are transit areas and do not include all spawning areas. Upper reaches of the Dosewallips and Duckabush have been more routinely surveyed since 1998, but few chinook adults or redds have been observed. Prior to 1986, no reliable estimates are available because all escapement estimates for these rivers were made by extrapolation from the Skokomish River.

In 2002 stock status is rated **Critical** because of **chronically low** escapements.

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The critical escapement threshold is 400 chinook for the Mid-Hood Canal management unit (PSIT and WDFW 2001). The mean escapement of 244 chinook for the Mid-Hood Canal stock from 1990 through 2001 is lower than the critical escapement threshold for the stock, so stock status is rated Critical. No productivity data are available yet for this stock.

Hatchery supplementation programs were begun in 1995 on the Hamma Hamma and Duckabush rivers, in cooperation with the Hood Canal Salmon Enhancement Group and Long Live the Kings. The goal of the programs is to restore self-sustaining chinook populations. Chinook released as fry from the program began to return as adults in 1998 and contributed to natural escapement in the Hamma Hamma. Escapement has increased since 1998, but we do not yet know whether self-sustaining chinook populations have been established in the rivers.

Stock Definition

Mid-Hood Canal chinook were identified as a stock in 2002 based on their distinct spawning distribution. The stock is composed of chinook that spawn in the Hamma Hamma, Duckabush, and Dosewallips watersheds.

Spawning Distribution: Chinook spawn 1) in the lower two miles of the Hamma Hamma River and occasionally in the lower reaches of John Creek, a tributary; 2) in the lower three miles of the Duckabush River; and 3) in the lower twelve miles of the Dosewallips River.

Spawning Timing: Spawning generally occurs in September and October.

Genetic Analysis: Genetic characterization of Mid-Hood Canal chinook has, to date, been limited to comparison of adults returning to the Hamma Hamma River in 1999 with other Hood Canal and Puget Sound populations. These studies, although not conclusive, suggest that Hamma Hamma returns are not genetically distinct from the Skokomish River returns, or recent George Adams and Hoodsport hatchery broodstock (Anne Marshall, WDFW, unpublished data). The reasons for this similarity are unclear, but straying of chinook that originate from streams further south in Hood Canal and hatchery stocking could be contributing causes.

Stock Origin

This is likely a **mixed** stock with **composite** production. We assume that many of the naturally spawning chinook were strays from local hatcheries and/or were adults returning from hatchery fry released into the Hamma Hamma, Duckabush, or Dosewallips rivers. From 1995 through 1999, a hatchery supplementation program used broodstock from George Adams Hatchery (Skokomish River system) to produce chinook fry for release into the Hamma Hamma and Duckabush rivers. Beginning in 2000, only chinook adults returning to the Hamma Hamma were included in the program as broodstock. The Dosewallips program was discontinued in 1993 and the Duckabush program in 1999.